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THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

James Allen Cox et al.

Serial No.: 09/751,422

Examiner Unknown

Filed: December 29, 2000

Group Art Unit 2872

For: RESONANT REFLECTOR FOR USE WITH OPTOELECTRONIC DEVICES

Docket No.: 1100.1130101 (H16-25181)

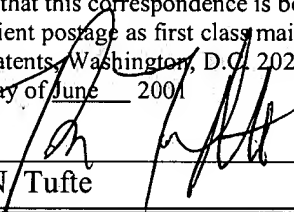
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TRANSMITTAL SHEET

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

**CERTIFICATE UNDER 37 C.F.R. 1.8:** I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231, on this 12<sup>th</sup> day of June 2001

By   
Brian N. Tufte

We are transmitting herewith the attached:

☐ Amendment

☐ No additional fee required

☐ The fee has been calculated as shown:

| CLAIMS AS AMENDED                  |                  |              |       |              |           |       |           |
|------------------------------------|------------------|--------------|-------|--------------|-----------|-------|-----------|
|                                    | (3)              | (4)          | (5)   | SMALL ENTITY |           | OTHER |           |
|                                    | REMAINING CLAIMS | HIGHEST PAID | EXTRA | RATE         | ADD'L FEE | RATE  | ADD'L FEE |
| TOTAL CLAIMS                       | -                | =            |       | x9=          | \$        | x18=  | \$        |
| INDEPENDENT CLAIMS                 | -                | =            |       | x39=         | \$        | x78=  | \$        |
| ( ) FIRST MULTIPLE DEPENDENT CLAIM |                  |              |       | +130=        | \$        | +260= | \$        |
| TOTAL                              |                  |              |       | \$           |           | \$    |           |

- [ ] A check in the amount of \$\_\_\_\_\_ is enclosed.
- [ ] Small entity status of this application under 37 C.F.R. 1.9 and 1.27 has been established by verified statement previously submitted.
- [ X ] Other: Supplemental Information Disclosure Statement, PTO Form-1449 and cited references.
- [ X ] Please charge any deficiencies or credit any overpayment in the enclosed fees to Deposit Account No. 50-0413.

By: \_\_\_\_\_

Brian N. Tufte

Reg. No. 38,638

Brian N. Tufte  
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#5/Suppl.  
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I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS  
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12th DAY OF June, 2001  
  
Brian N. Tufte

Dear Sirs:

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Pursuant to the obligations of candor and good faith imposed by 37 C.F.R. 1.56, the documents listed on the attached PTO-1449 are hereby disclosed.

No representation is intended to be made hereby that any of the cited references establishes, by itself or in combination with other information, a prima facie case of unpatentability of any claim of the present case.

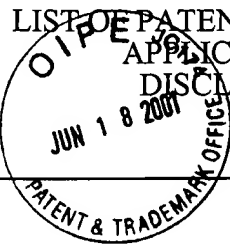
Respectfully submitted,

James Allen Cox et al.

By their attorney,

Dated: June 12, 2001

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|  |   |                           |
|--|---|---------------------------|
| <b>FORM PTO-1449</b><br><br>LIST OF PATENTS AND PUBLICATIONS FOR<br>APPLICANT'S INFORMATION<br>DISCLOSURE STATEMENT<br><br> | Atty. Docket No.:<br>1100.1130101 (H16-25181) | Serial No.:<br>09/751,422 |
|  | Applicant: James Allen Cox et al.             |                           |
|  | Filing Date                                   | Group Art:                |
|  | December 29, 2000                             | 2872                      |

### FOREIGN PATENT DOCUMENTS

|  |    | Document No.   | Date       | Country | Class | Sub Class | Translation<br>Yes No |
|--|----|----------------|------------|---------|-------|-----------|-----------------------|
|  | AA | DE 4 240 706 A | 06/09/1994 | Germany |       |           |                       |
|  | AB | EP 0 288 184 A | 10/26/1988 | Europe  |       |           |                       |
|  | AC | EP 0 776 076 A | 05/28/1997 | Europe  |       |           |                       |
|  | AD | JP 60-123084 A | 07/01/1985 | Japan   |       |           | Yes (Abstract only)   |
|  | AE | JP 02-054981 A | 02/23/1990 | Japan   |       |           | Yes (Abstract only)   |

### OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

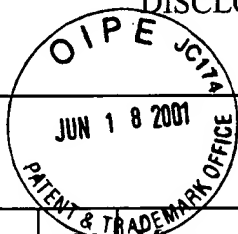
|    |  |
|----|--|
| AF | Guenter et al., "Reliability of Proton-Implanted VCSELs for Data Communications", Invited paper, SPIE, Vol. 2683, OE LASE 96; Photonics West: Fabrication, Testing and Reliability of Semiconductor Lasers, (SPIE, Bellingham, WA 1996). <i>(No month)</i> |
| AG | Hibbs-Brenner et al., "Performance, Uniformity and Yield of 850nm VCSELs Deposited by MOVPE", IEEE Phot. Tech. Lett., Vol. 8, No. 1, pp. 7-9, January 1996.  |
| AH | Hornak et al., "Low-Temperature (10K-300K) Characterization of MOVPE-Grown Vertical-Cavity Surface-Emitting Lasers", Photon. Tech. Lett., Vol. 7, No. 10, pp. 1110-1112, October 1995.   |
| AI | Huffaker et al., "Lasing Characteristics of Low Threshold Microcavity Layers Using Half-Wave Spacer Layers and Lateral Index Confinement", Appl. Phys. Lett., Vol. 66, No. 14, pp. 1723-1725, April 3, 1995.   |
| AJ | K.L. Lear et al., "Selectively Oxidized Vertical Cavity Surface-Emitting Lasers with 50% Power Conversion Efficiency", Elec. Lett., Vol. 31, No. 3 pp. 208-209, February 2, 1995.  |
| AK | Lehman et al., "High Frequency Modulation Characteristics of Hybrid Dielectric/AlGaAs Mirror Singlemode VCSELs", Electronic Letters, vol. 31, No. 15, July 20, 1995, pp. 1251-1252.  |
| AL | Magnusson, "Integration of Guided-Mode Resonance Filters and VCSELs", Electro-Optics Research Center, Department of Electrical Engineering, University of Texas at Arlington, May 6, 1997.   |

EXAMINER:

DATE CONSIDERED:

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

|   |   |                           |
|---|---|---------------------------|
| FORM PTO-1449   | Atty. Docket No.:<br>1100.1130101 (H16-25181) | Serial No.:<br>09/751,422 |
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|   | December 29, 2000                             | 2872                      |



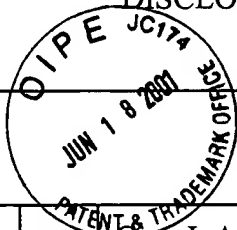
|    |  |
|----|--|
| AM | Morgan et al., "Hybrid Dielectric/AlGaAs Mirror Spatially-Filtered Vertical Top-Surface Emitting Laser", <u>Appl. Phys. Lett.</u> , Vol. 60, No. 8, pp. 921-923, February 24, 1992.  |
| AN | Morgan et al., "One Watt Vertical Cavity Surface Emitting Laser", <u>Electron. Lett.</u> , Vol. 29, No. 2, pp. 206-207, January 21, 1993   |
| AO | Morgan et al., "Producible GaAs-based MOVPE-Grown Vertical-Cavity Top-Surface Emitting Lasers with Record Performance", <u>Elec. Lett.</u> , Vol. 31, No. 6, pp. 462-464, March 16, 1995.  |
| AP | Morgan et al., "Spatial-Filtered Vertical-Cavity Top Surface-Emitting Lasers", <u>CLEO</u> , 1993, pp. 138-139. (no month)   |
| AQ | Morgan et al., "Vertical Cavity Surface Emitting Laser Arrays: Come of Age," , Invited paper, <u>SPIE</u> , Vol. 2683-04, OE LASE 96; Photonics West: Frabrication, Testing and Reliability of Semiconductor Lasers, (SPIE< Bellingham, WA, 1996). (no month)                              |
| AR | S.S. Wang and R. Magnusson, "Multilayer Waveguide-Grating Filters", <u>Appl. Opt.</u> , Vol. 34, No. 14, pp. 2414-20, 1995. (no month)   |
| AS | S.S. Wang and R. Magnusson, "Theory and Applications of Guided-Mode Resonance Filters", <u>Appl. Opt.</u> , Vol. 32, No. 14, pp. 2606-13, 1993. (no month)   |
| AT | Schubert, "Resonant Cavity Light-Emitting Diode", <u>Appl. Phys. Lett.</u> , Vol. 60, No. 8, pp. 921-923, February 24, 1992.   |
| AU | Y. M. Yang et al., "Ultralow Threshold Current Vertical Cavity Surface Emitting Lasers Obtained with Selective Oxidation", <u>Elect. Lett.</u> , Vol. 31, No. 11, pp. 886-888, May 25, 1995.   |
| AV | Yablonovitch et al., "Photonic Bandgap Structures", <u>J. Opt. Soc. Am. B.</u> , Vol. 10, No. 2, pp. 283-295, February 1993.   |
| AW | Young et al., "Enhanced Performance of Offset-Gain High Barrier Vertical-Cavity Surface-Emitting Lasers", <u>IEEE J. Quantum Electron.</u> , Vol. 29, No. 6, pp. 2013-2022, June 1993.   |
| AX | Smith, R.E. et al., "Polarization-Sensitive Subwavelength Antireflection Surfaces on a Semiconductor for 975 NM", <u>Optics Letters</u> , Vol. 21, No. 15, August 1, 1996, pp. 1201-1203.  |
| AY | Suning Tang et al., "Design Limitations of Highly Parallel Free-Space Optical Interconnects Based on Arrays of Vertical Cavity Surface-Emitting Laser Diodes, Microlenses, and Photodetectors", <u>Journal of Lightwave Technology</u> , Vol. 12, No. 11, November 1, 1994, pp. 1971-1975. |

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|    |   |
|----|---|
| AZ | Cox, J. A., et al., "Guided Mode Grating Resonant Filters for VCSEL Applications", <u>Proceedings of the SPIE</u> , The International Society for Optical Engineering, Diffractive and Holographic Device Technologies and Applications V, San Jose, California, January 28-29, 1998, Vol. 3291, pages 70-71. |
| BA | Martinsson et al., "Transverse Mode Selection in Large-Area Oxide-Confined Vertical-Cavity Surface-Emitting Lasers Using a Shallow Surface Relief", <u>IEEE Photon. Technol. Lett.</u> , 11(12), 1536-1538 (1999).  |
| BB | Choquette et al., "Lithographically-Defined Gain Apertures Within Selectively Oxidized VCSELs", paper CtuL6, Conference on Lasers and Electro-Optics, San Francisco, California (2000).   |
| BC | Oh, T. H. et al., "Single-Mode Operation in Antiguided Vertical-Cavity Surface-Emitting Laser Using a Low-Temperature Grown AlGaAs Dielectric Aperture", <u>IEEE Photon. Technol. Lett.</u> , 10(8), 1064-1066 (1998).  |
| BD | "Surface-Emitting Microlasers for Photonic Switching and Interchip Connections", <u>Optical Engineering</u> , 29, pp. 210-214, March 1990.  |
| BE | G. Shtengel et al., "High-Speed Vertical-Cavity Surface-Emitting Lasers", <u>Photon. Tech. Lett.</u> , Vol. 5, No. 12, pp. 1359-1361 (December 1993).   |

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